

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: SMITH POND	Lake Area (ha):	27.52
Town: ENFIELD	Maximum depth (m):	10.7
County: Grafton	Mean depth (m):	2.0
River Basin: Connecticut	Volume (m ³):	547500
Latitude: 43°35'15" N	Relative depth:	1.8
Longitude: 72°08'15" W	Shore configuration:	1.56
Elevation (ft): 1650	Areal water load (m/yr):	3.95
Shore length (m): 2900	Flushing rate (yr ⁻¹):	2.00
Watershed area (ha): 248.6	P retention coeff.:	0.70
% watershed ponded: 0.0	Lake type:	natural w/dam

BIOLOGICAL:

	19 January 1989	29 August 1988
DOM. PHYTOPLANKTON (% TOTAL) #1	SPARSE - NO DOMINANT	SYNURA 55%
#2		CHRYOSOPHAERELLA 20%
#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)		
CHLOROPHYLL-A (µg/L)		
DOM. ZOOPLANKTON (% TOTAL) #1	CALANOID COPEPOD 50%	KERATELLA 32%
#2		ASPLANCHNA 24%
#3		NAUPLIUS LARVA 11%
ROTIFERS/LITER	4	144
MICROCRUSTACEA/LITER	22	68
ZOOPLANKTON ABUNDANCE (#/L)	26	212
VASCULAR PLANT ABUNDANCE		Abundant
SECCHI DISK TRANSPARENCY (m)		7.4
BOTTOM DISSOLVED OXYGEN (mg/L)	8.9	0.6
BACTERIA (fecal col., #/100 ml) #1		< 1
#2		
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 7.3
Hypolimnion volume (m³): 5500

CHEMICAL:

Lake: SMITH POND

Town: ENFIELD

	19 January 1989		29 August 1988		
DEPTH (m)	3.0	6.0	0.5		
pH (units)	6.2	6.1	6.4		
A.N.C. (Alkalinity)	4.2	4.2	2.1		
NITRATE NITROGEN	0.07	0.07	< 0.05		
TOTAL KJELDAHL NITROGEN	0.49		0.53		
TOTAL PHOSPHORUS	0.019	0.018	<0.001		
CONDUCTIVITY (μ mhos/cm)	23.6	24.1	18.3		
APPARENT COLOR (cpu)	9	9	7		
MAGNESIUM			0.29		
CALCIUM			1.8		
SODIUM			0.8		
POTASSIUM			0.20		
CHLORIDE	< 2	< 2	< 2		
SULFATE	5	4	4		
TN : TP	29				
CALCITE SATURATION INDEX			4.3		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1988

D.O. S.D. PLANT CHL TOTAL CLASS

3	0	5	**	8	Meso.
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COMMENTS:

1. The Kemmerer sampling bottle was not brought for the summer survey; only a surface grab sample was collected for chemical analysis. No chlorophyll sample was collected but, because of the values for water clarity, phosphorus, and plankton, the chlorophyll was assumed to be less than 4 mg/m^3 for classification purposes (the chlorophyll would have had to be over 24 mg/m^3 to move the pond into the eutrophic category).
2. Pond is accessed by a rough, 4-wheel drive dirt road.
3. No whole-water phytoplankton sample was collected.

SMITH POND

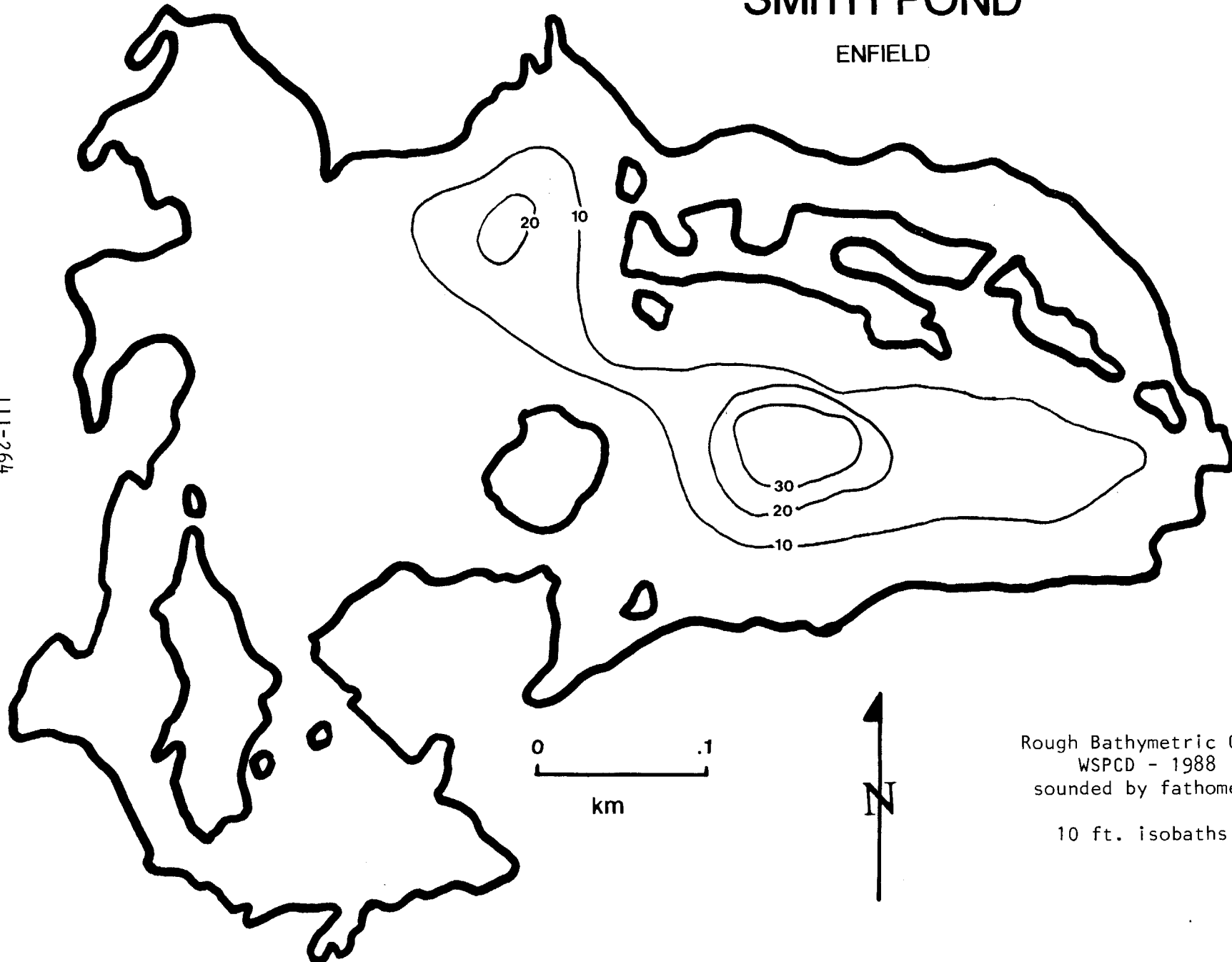
ENFIELD

Rough Bathymetric Chart
WSPCD - 1988
sounded by fathometer
10 ft. isobaths

0 .1
km



111-264



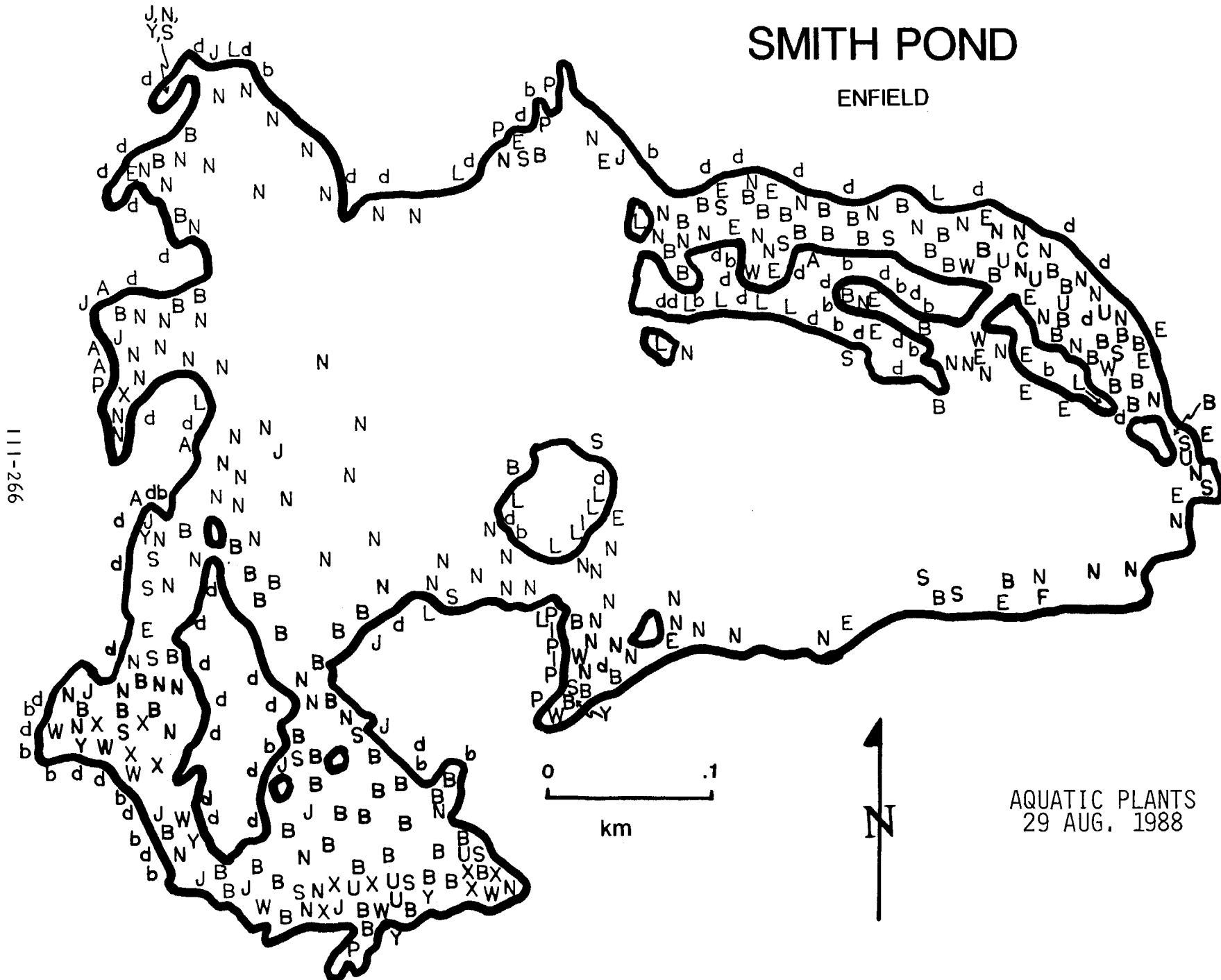
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SMITH POND

ENFIELD

AQUATIC PLANTS
29 AUG. 1988

0 .1
km



111-266

AQUATIC PLANT SURVEY			
LAKE: SMITH POND		TOWN: ENFIELD	DATE: 08/29/88
Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
P	Pontederia cordata	Pickerselweed	Sparse
X		Sterile thread-like leaf	Common
I	Iris	Iris	Sparse
Y	Nuphar	Yellow water lily	Sparse
d	Dulichium arundinaceum	Three-way sedge	Common
B	Brasenia schreberi	Water shield	Abundant
b	Scirpus	Bulrush	Scattered
L	Lysimachia terrestris	Swampcandle	Common
E	Eriocaulon septangulare	Pipewort	Scattered
S	Sparganium	Bur reed	Scattered
U	Utricularia	Bladderwort	Scattered
W	Potamogeton	Pondweed	Scattered
A	Sagittaria	Arrowhead	Sparse
J	Juncus	Rush	Scattered
OVERALL ABUNDANCE: Abundant			
<u>GENERAL OBSERVATIONS:</u> 1. An osprey and kingfishers were observed.			